



# UNITED STATES PATENT AND TRADEMARK OFFICE

ck

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,341	12/09/2003	Brian Allan Floyd	YOR920030585US1	3541
7590 05/03/2005 Ryan, Mason & Lewis, LLP 90 Forest Avenue Locust Valley, NY 11560			EXAMINER NGUYEN, KHANH V	
			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/731,341

Applicant(s)

FLOYD, BRIAN ALLAN

Examiner

Khanh V. Nguyen

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 031704
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-11, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tchamov et al (5,933,057).

Regarding claims 1, 8, 20, Tchamov et al. (Fig. 1) disclose a low noise amplifier comprising: an input (IN) and an output (OUT); a first stage including a common-base transistor (Q1); and a second stage including a cascode transistor pair (Q2, Q3) coupled to the common-base transistor (Q1), wherein the low noise amplifier implemented in communication receiver is considered an intended use of the invention.

Regarding claim 2, wherein capacitors (C1, C2) and resistors (R1, R3) capable of function as an input matching network having the connections as claimed.

Regarding claim 3, wherein capacitor (C3), inductor (L1), and resistor (R4) capable of function as an inter-stage matching network having the connection as claimed.

Regarding claim 4, wherein capacitor (C5) and resistor (R7) capable of function as an output matching network having the connections as claimed.

Regarding claim 5, wherein inductor (L1) can be read as a shunt-stub microstrip transmission line.

Regarding claim 9, the low noise amplifier implemented accordance with a millimeter-wave communication receiver is considered an intended use of the invention.

Regarding claim 10, wherein the reference circuit is a unilateral amplifier, since signal flows from input to output.

Regarding claim 11, wherein the current associated with the cascode transistor pair (Q2, Q3) is adjustable based on variation in component values a the cascade transistor pair.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tchamov et al..

Regarding claims 6, 7, 12, 18, Tchamov et al. disclose the claimed invention except for specific technology which circuit implemented. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific technologies as claimed, since they are based on the routine experimentation to improve the efficiency during the power amplification operation. *Note*, Tchamov et al. invention is well suited for implementing a low noise amplifier

Art Unit: 2817

using various manufacturing technologies and types of components, col. 2, lines 66 to col. 3, lines 1-15. As such, silicon base technology could be one of those components.

Regarding claim 13, wherein a first stage including a common-base transistor (Q1); and a second stage including a cascode transistor pair (Q2, Q3) coupled to the common-base transistor (Q1).

Regarding claim 14, wherein capacitors (C1, C2) and resistors (R1, R3) capable of function as an input matching network having the connections as claimed.

Regarding claim 15, wherein capacitor (C3), inductor (L1), and resistor (R4) capable of function as an inter-stage matching network having the connection as claimed.

Regarding claim 16, wherein capacitor (C5) and resistor (R7) capable of function as an output matching network having the connections as claimed.

Regarding claim 17, wherein in inductor (L1) can be read as a shunt-stub microstrip transmission line.

Regarding claim 19, see claims 12 and 17 above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional reference (Franca-Neto (6,806,777)) shows further analogous prior art circuitry having cascade stage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KHANH VAN NGUYEN**  
**PRIMARY EXAMINER**  
Art Unit: 2817